



UNITED STATES DEPARTMENT OF COMMERCE  
The Under Secretary of Commerce  
for Oceans and Atmosphere  
Washington, D.C. 20230

MAR 30 2007

Stephen A. Morris  
World Heritage Program Officer  
National Park Service  
Office of International Affairs (0050)  
1201 Eye Street, NW, Suite 550A  
Washington, D.C. 20240

Dear Mr. Morris:

The National Oceanic and Atmospheric Administration (NOAA) is pleased to submit the enclosed nomination packages for the Stellwagen Bank National Marine Sanctuary (SBNMS) and the Fagatele Bay National Marine Sanctuary (FBNMS) for consideration for inclusion on the U.S. Tentative List for the World Heritage Convention. The FBNMS is being co-nominated by the Governor of American Samoa.

The SBNMS and FBNMS are both areas of special national and international significance, and are being nominated as mixed sites on the basis of their extraordinary natural and cultural heritage. Both enjoy the support of members of their sanctuary advisory councils which represent a cross-section of stakeholders, interest groups, and agency partners in the sanctuary communities.

Thank you for considering the addition of these sanctuaries to the U.S. Tentative List for the World Heritage Convention. Please let me know if you have questions or need additional information. We look forward to your response.

Sincerely,

Conrad C. Lautenbacher, Jr.  
Vice Admiral, U.S. Navy (Ret.)  
Under Secretary of Commerce for  
Oceans and Atmosphere

Enclosures



Printed on Recycled Paper

THE ADMINISTRATOR



## APPLICATION FOR INCLUSION OF FAGATELE BAY NATIONAL MARINE SANCTUARY IN THE U.S. WORLD HERITAGE TENTATIVE LIST

### Prerequisites for U.S. World Heritage Nominations

#### Prerequisite 1 - Legal Requirements:

##### A. National Significance:

Has the property been formally determined to be nationally significant for its cultural values, natural values, or both (in other words, has it been formally designated as a National Historic Landmark, a National Natural Landmark, or as a Federal reserve of national importance, such as a National Park, National Monument, or National Wildlife Refuge)? If not, are there on-going processes to achieve any of the above designations and what is their status? (*Listing in the National Register of Historic Places is not equivalent to National Historic Landmark status.*)

YES:   X                        NO:           

Comment: Fagatele Bay National Marine Sanctuary was designated pursuant to the National Marine Sanctuaries Act, 16 U.S.C. §§ 1431 et seq. The Act includes findings by the Congress that certain areas of the marine environment possess conservation, recreational, ecological, historical, scientific, educational, cultural, archaeological, or aesthetic qualities which give them special national, and in some cases international, significance. As required by the Act, the Secretary of Commerce determined at the time of designation that Fagatele Bay is a marine area of special national significance due to its resource or human use values. Fagatele Bay is one of only thirteen sites in the United States that have been recognized for their exceptional qualities and designated as national marine sanctuaries.

##### B. Owner Concurrence:

Are all the property owners aware of this proposal for the inclusion of the property in the U.S. Tentative List and do all of the property owners agree that it should be considered? If any agreement is uncertain or tentative, or if the ownership situation is disputed, otherwise complicated, or unclear, please explain the issues briefly.

YES:   X                        NO:

Comment: Fagatele Bay National Marine Sanctuary consists of near-shore marine waters and the submerged lands thereunder and owned by American Samoa Government. The Government of the United States has regulatory authority over the marine resources of the sanctuary under the National Marine Sanctuaries Act. The sanctuary is co-managed by the American Samoa Government (through its Department of Commerce) and the U.S. National Oceanic and Atmospheric Administration (NOAA) through the National Marine Sanctuary Program. This application is being submitted by the American Samoa Government and NOAA.

### C. Willingness to Discuss Protective Measures:

If the property is nominated to the World Heritage List, it will be necessary for all of the property owners to work with the Department of the Interior to document fully existing measures to protect the property and possibly to devise such additional measures as may be necessary to protect the property in perpetuity. Are all the property owners willing to enter into such discussions?

YES:   X   NO:           

Comment: Fagatele Bay was designated a National Marine Sanctuary in 1986. The sanctuary's designation document published in the Federal Register Vol. 51, No. 82, April 29, 1986 specifies the boundaries and activities subject to regulation. The sanctuary currently has a set of regulations tailored specifically to the needs of the site, 15 CFR 922.102. In addition, a management plan was developed upon designation and includes the priority education, research and management programs that help fulfill the goals and objectives of the sanctuary and the purposes and policies of the National Marine Sanctuaries Act.

### D. Scheduling:

If you wish a property to be nominated to the World Heritage List in a particular year during the period 2009-2019, please indicate the reason(s) why and the earliest year in which you feel it will be possible to meet all requirements for nomination. *(Please review this entire **Questionnaire** before finally answering this question.)*

Preferred Year: 2009 or upon completion of the Sanctuary's Management Plan Review

Reasons: The sanctuary is about to initiate a review of its management plan. The management plan review process is a comprehensive review of the sanctuary's existing programs and priority resource protection issues. Fagatele Bay has not had a management plan review since its designation in 1986. Therefore, this upcoming review will be very important in assessing what new programs, policies or regulations are necessary to

improve the resource protection of Fagatele Bay and to meet the long-term protection goals of the sanctuary.

## **Prerequisite 2 - Specific Requirements for Nomination of Certain Types of Properties:**

### **E. Serial (multi-component) Properties:**

If you are proposing a nomination that includes separate components that could be submitted separately over several years, do you believe that the first property proposed would qualify to be placed on the World Heritage List in its own right?

*Explanation: There will be a very limited number of sites nominated over the next decade. Owners of similar properties likely will be encouraged to work together to present joint proposals for serial nominations. An example would be a proposal to nominate several properties designed by the same architect. It is critical to note that the first property presented in a serial nomination must qualify for listing in its own right.*

YES: ☒X\_\_\_\_\_ NO: \_\_\_\_\_

Comment: This submission stands alone, and is not a multi-component property. However, it could be considered together with other sites being proposed within the Samoan Archipelago by the US Fish and Wildlife Service (Rose Atoll) and the independent nation of Samoa to the west of American Samoa.

### **F. Serial (multi-component) Properties:**

Are you proposing this property as an extension of or a new component to an existing World Heritage Site?

YES: \_\_\_\_\_ NO ☒X\_\_\_\_\_

Name of Existing Site: \_\_\_\_\_

## **Prerequisite 3 - Other Requirements:**

### **G. Support of Stakeholders**

In addition to owners, please list other stakeholders and interested parties who support the property's proposed inclusion in the Tentative List. Also note any known to be opposed.

*Explanation: The purpose of the Tentative List is to propose candidate properties that are likely to be successfully nominated during the next decade. It is clear that a consensus among stakeholders will be helpful in nominating a site and later in securing its proper protection. Thus, only properties that enjoy strong, preferably unanimous, support from stakeholders will be recommended for inclusion in the U.S. Tentative List.*

*In addition to owners, stakeholders primarily include:*

- Governors, Members of Congress and State legislators who represent the area where the property is located,*
- the highest local elected official, or official body, unless there is none,*
- Native Americans, American Indian tribes, or other groups and individuals who possess legally recognized claims or privileges in the area or at the site being proposed (e.g., life tenancy or hunting and fishing rights),*
- organizations established to advocate for protection and appropriate use of the property proposed for nomination.*

*If definitive information is not available at the time you filled out this Questionnaire, please so indicate.*

Supporters: Governor Togiola T. A. Tulafono will co-nominate the site. the Fagatele Bay Sanctuary Advisory Council, representing a variety of local user groups, interests, and partners has expressed unanimous support for the nomination of the sanctuary. The local NMFS representative is also supportive.

In early April, NOAA will also consult/brief key members of Congress and appropriate committee staff to inform them of NOAA's recommendation for submitting this nomination to the U.S. Tentative List.

Opponents: None have been identified

Comment: American Samoa Government has jurisdiction of territorial waters and endorses this proposal.

## **Information Requested about Applicant Properties**

(The numbers of the sections and subsections below are in the same order as and correspond to sections of the World Heritage Committee's official Format used for the nomination of World Heritage Sites. This is to allow easy reference to and comparison of the material.)

### **1. IDENTIFICATION OF THE PROPERTY OR PROPERTIES**

**1.a. Country:**

If it is intended that the suggested nomination will include any properties in countries other than the United States, please note the countries here.

*Explanation: Please note that the United States can nominate only property under U.S. jurisdiction. You are not expected to contact other governments and owners abroad, although you may do so if you wish. Each national government must nominate its own sites, although the United States will consider forwarding your suggestion to another government for that government to consider as a joint nomination with the United States.*

Names of countries: United States only

**1.b. State, Province or Region:**

In what State(s) and/or Territories is the property located? Also note the locality and give a street address if one is available.

American Samoa, on the southwestern shore of the island of Tutuila

**1.c. Names of Property:**

What is the preferred or proposed name of the property or properties proposed for nomination? If the site has multiple names, explain why you chose the primary choice or choices. *(The name should not exceed 200 characters, including spaces and punctuation.)*

Fagatele Bay National Marine Sanctuary

***Popular and Historic names***

What are any popular or historic names by which the property is also known?

Fagatele (which means big bay or long bay in Samoan)

***Naming of serial (multiple component) properties and transboundary sites.***

Try to choose brief descriptive names. In the case of serial nominations, give an overall name to the group (e.g., *Baroque Churches of the Philippines*). *(Give the names of the individual components in a table that you insert under If.)*

Group or Transboundary Name: N/A

### ***Other names or site numbers***

*Explanation: If a site has multiple names, explain why you chose the primary choice or choices. If the site has no common name or is known only by a number or set of numbers, please explain.*

N/A

---

### **1.d.-e. Location, boundaries, and key features of the nominated property**

Please provide here a list of the maps that you have included.

Figure A Tutuila and Fagatele Bay National Marine Sanctuary

Figure B Map of the physical structures on the deep reef slopes within Fagatele Bay National Marine Sanctuary

Figure C Map of Fagatele Bay NMS showing zones A and B

### **1.f. Area of nominated property (ha.)**

The Fagatele Bay National Marine Sanctuary is 66 hectares (163 acres).

## **2. DESCRIPTION AND HISTORY OF THE PROPERTY**

### **2.a. Description of the Property**

**Mixed property (one that meets at least one natural criterion and one cultural criterion—see Section 3a just below for criteria)**

Briefly describe the property and list its major components. A summary in a few paragraphs or pages is all that is required.

The Fagatele Bay National Marine Sanctuary protects 163 acres (0.25 square miles) of bay area centered on 14°23'45" S latitude and 170°46'7" longitude, about 7.5 miles southwest of Pago Pago Harbor. It is located along the southwestern shore of Tutuila, the largest and most populated island of the seven islands comprising the U.S. Territory of American Samoa. Figure A depicts the precise boundaries, as defined by regulation.



Figure A: Aerial photograph of Fagatele Bay National Marine Sanctuary and adjacent coast of Tutuila. Photo: M. Tennant

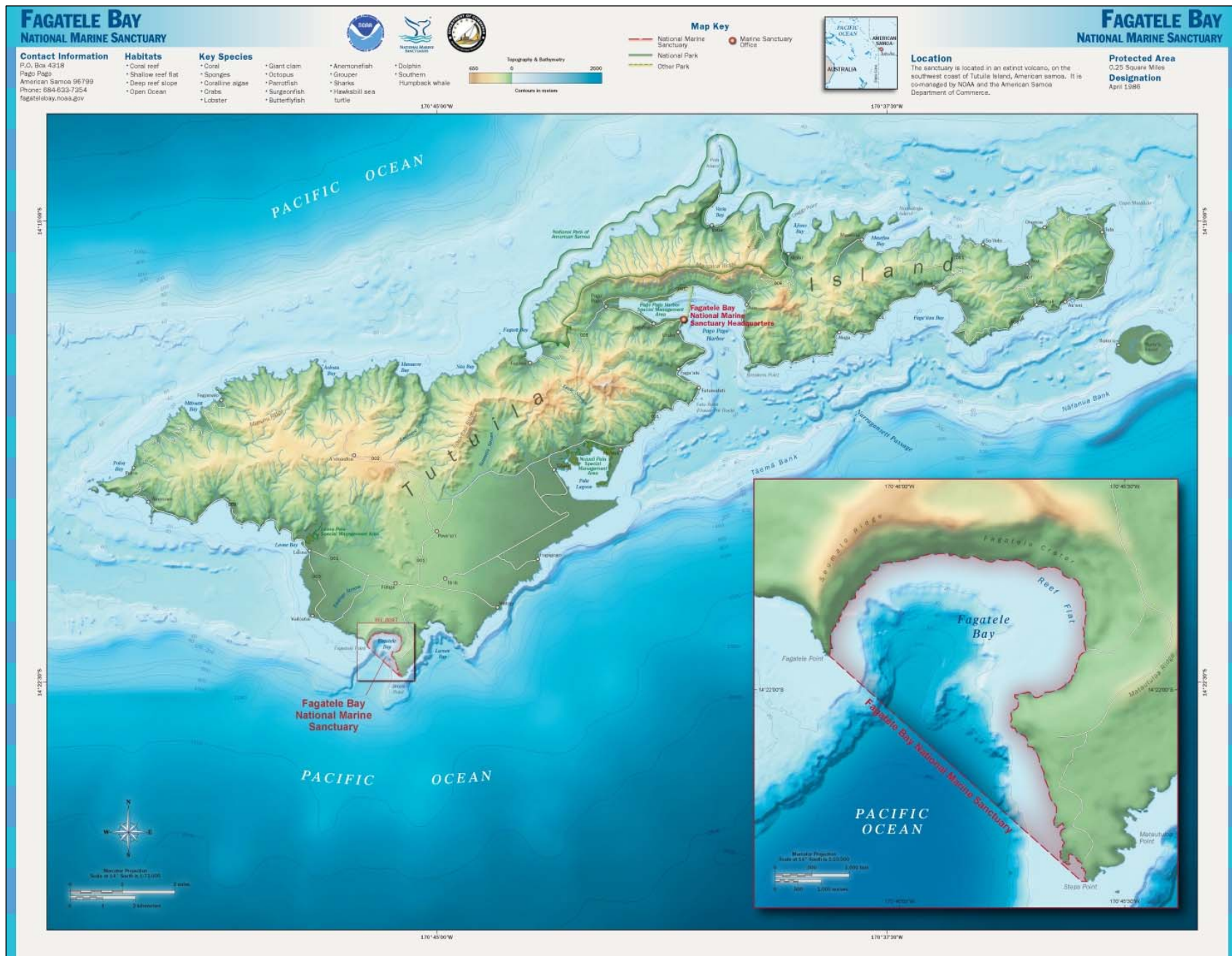
The Sanctuary contains a unique and vast array of more than 140 species of tropical marine organisms, including corals, marine mammals such as the Pacific bottlenose dolphin, and endangered and threatened species such as the hawksbill and green sea turtles. Fagatele Bay is a vibrant tropical reef marine ecosystem, filled with populations of coral reef fish including parrotfish, damselfish and butterflyfish; marine invertebrates such as lobster, crabs, and octopus; and apex predators including sharks.

Although quantitative descriptions are lacking, qualitative descriptions of Fagatele Bay prior to a 1978 crown-of-thorns starfish infestation indicate that the Bay is one of the most biologically productive areas found in American Samoa. The bay is relatively isolated from human disturbances and its ecosystem is highly resilient. Its coral populations have recovered from the effects of the crown-of-thorns infestation as well as from periodic damage due to coral bleaching and storms. It has also recovered from past instances where people have fished with explosives. Given the chance to fully recover through increasingly effective management, the Bay is expected to become as highly productive as it ever was.

Samoans have occupied the island of Tutuila for over 3,000 years, and have maintained strong ties to the ocean and the marine environment throughout that time. Samoans have developed a number of traditional fishing methods, making use of matasele (noose), tao (spear), sao fai fe'e (octopus stick), pule ta'i fe'e (squid lure), sele (snare), lauloa (weirs), puni (dams), futu (fish poison), faga (traps), upega (nets), matau and pa (two – pieced hooks). These traditional methods are the continuation of a heritage that is relatively intact, although not always practiced. Only traditional methods of fishing are allowed in the inner bay. Line fishing is permitted in the outer bay only. See Figure C.



**Figure A: Tutuila and Fagatele Bay National Marine Sanctuary**



Which features or aspects of the property do you believe qualify it for the World Heritage List?



Aerial view of Fagatele Bay's fringing reef. Photo: M. Tennant

Fagatele Bay National Marine Sanctuary comprises a relatively pristine fringing coral reef ecosystem nestled within an eroded volcanic crater on the island of Tutuila, American Samoa. The water visibility in the bay is normally around 70 feet. Although not part of the property under U.S. jurisdiction, the steep slopes surrounding the small bay contain some of Americas's rare paleo-tropical rainforest. The area provides exceptional scientific value as an ecological,

recreational, cultural and aesthetic resource and is a source for unique educational and recreational experiences.

Fagatele Bay is a vibrant tropical reef marine ecosystem, filled with dense populations of coral reef fish including parrotfish, damselfish and butterflyfish; marine invertebrates such as lobster, crabs, and octopus; and apex predators including sharks. The fringing reef system contains more than 140 species of coral and related organisms. From June to September, Southern humpback whales migrate north from Antarctica to calve and court in Samoan waters. Visitors can hear courting males sing whale songs, which the whales may be using to attract mates. Several endangered species have been observed in the vicinity of the bay, including hawksbill (*Eretmochelys imbricata*) turtles and humpback (*Megaptera novaeangliae*) and sperm (*Physeter catodon*) whales. The bay also provides an important habitat for the threatened green sea (*Chelonia mydas*) turtles.



Healthy coral communities in Fagatele Bay in 2006. Photo: Richard Murphy

Fagatele Bay combines exceptional and resilient coral reef ecological processes with strong traditional Samoan cultural relations to the sea. The culture of Samoa is over 3,000 years old. Fa'asamoa, the Samoan way, has kept Samoans strongly nationalistic and cautious about changes that might threaten the traditional structure of their way of life. These traditional methods are the continuation of a heritage that is relatively intact,

although not always practiced. World Heritage status would help to highlight the unique Samoan relationship to the coastal environment.

One aspect of fa'asamoa is the ancient concept of tapu. Samoans restricted use on areas that became overstressed in order to protect their resources. These Samoan traditions for using and conserving the marine environment are a legacy of the Samoan people's long dependence on the ocean for their livelihoods. Through participation on the Sanctuary Advisory Council and through other sanctuary programs, the Sanctuary is encouraging traditional Samoan people to express their voice and Samoan systems of resource management for their traditional relationship to the sea. This management partnership is a unique example of marine resource conservation and utilization that is threatened by environmental and social change.

What are the important present or proposed uses of the property and how do they compare with the traditional or historic uses of it?

The most common activity in Fagatele Bay is sport and subsistence fishing. Surveys have indicated that a small number of individuals from all parts of Tutuila fish the bay on an irregular basis. Because of its relative inaccessibility through overland routes, most fishermen reach the area by boat. However, this can be challenging due to the usual heavy seas that occur outside the bay. Sanctuary regulations prohibit taking invertebrates and sea turtles, as well as any historical artifacts found in the bay. Only traditional fishing methods are permitted in the inner bay. Line fishing is permitted in the outer bay only.

There are no shipping activities within the confines of the bay, nor are there any military operations in the area. There is on-going research being conducted in the bay regarding coral recolonization and changes in the composition and structure of inshore fish communities within the area. Other non-consumptive activities, such as swimming, diving and boating, occur with limited frequency, but may increase in the future.

## **2.b. History and Development of the Property**

### **Mixed property**

When was the site built or first occupied and how did it arrive at its present form and condition? If it has undergone significant changes in use or physical alterations, include an explanation. What have been the major aspects of the history of human activity in the area and their impact on the landscape? What are the most significant events in history or prehistory that have affected the property? How have humans used or affected it?

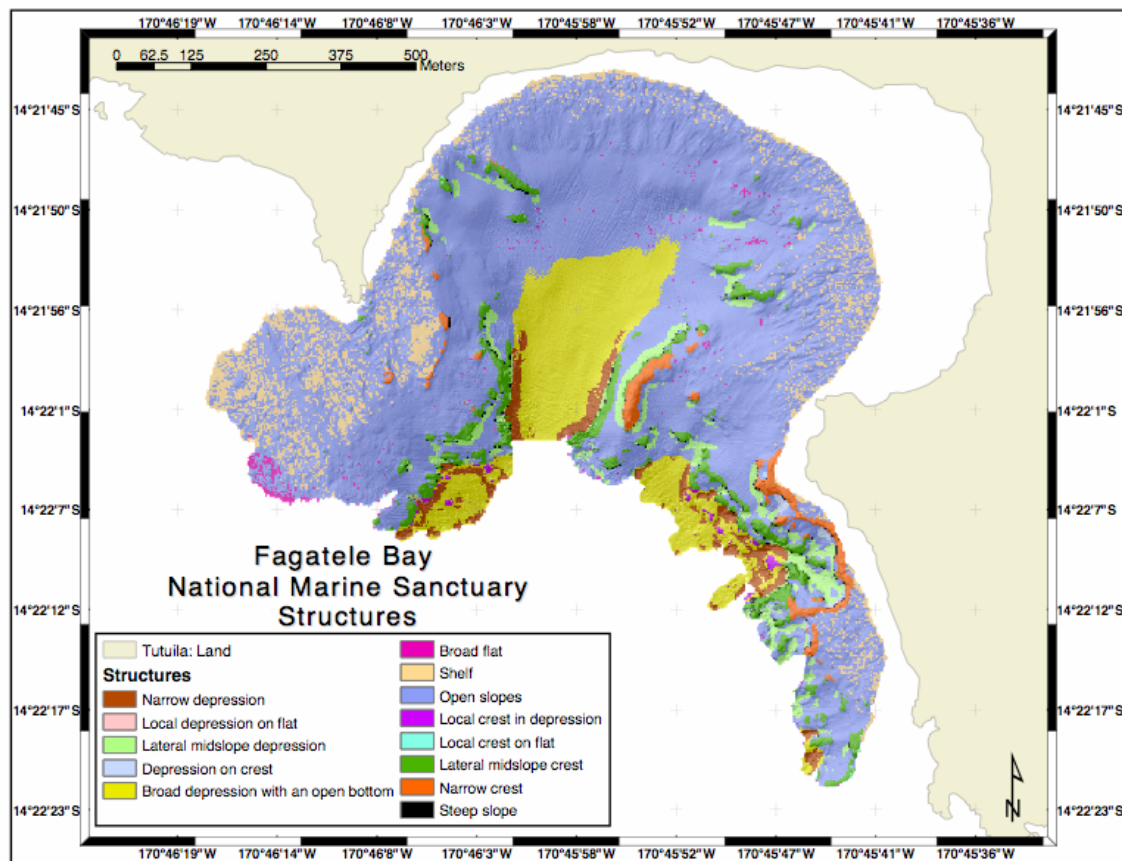
The story of Fagatele Bay's volcanic and reef building origins is preserved in its breathtaking setting and tells of a unique merger of geological, oceanographic and biological processes.

Tutuila Island is composed of Pliocene or early Pleistocene volcanics extruded approximately 1.5 million years ago by a series of eruptions. The island consists primarily of basaltic lava flows and ash deposits. The caldera that forms Fagatele Bay is



the result of the latest-stage of island building by eruptions along the southern margin of the Tutuila island platform. Fagatele Bay, and its sister bay Larson's, sit uniquely at the platform edge where their eruptions created deep embayments into the platform. As a result, the sea floor of Fagatele Bay drops steeply to 170 m at the edge of the bay, only 200 m from shore.

**Figure B: Map of the physical structures on the deep reef slopes within Fagatele Bay National Marine Sanctuary. These features are formed by the coral reefs and the sediments they produce. These structures have been deposited on top of the submerged geological features of the island. Map created by Oregon State University.**



Migrants from South East Asia arrived in the Samoan archipelago roughly 3,000 years ago. The descendants of these original inhabitants eventually explored and settled islands across the Pacific Ocean, from Hawai'i to Rapa Nui to New Zealand. Samoans thus consider their islands to be the cradle of Polynesian civilization.

Around 1250 AD, Nafanua [in various stories either a spirit or a princess] assisted Samoan armies in driving out overlords from eastern Savai'i. In the 15th century Salamasina, a female matai, or chief, united the islands for the first time. A civil war broke out in 1899, and the subsequent Western intervention divided the nation into two

separate political entities. Today the independent nation of Samoa has jurisdiction over the islands west of 171 degrees longitude, and the Territory of American Samoa comprises the islands to the east. Approximately 90% of the territory's 65,000 inhabitants reside on Tutuila, the territory's largest island at 54 square miles [140 sq km].

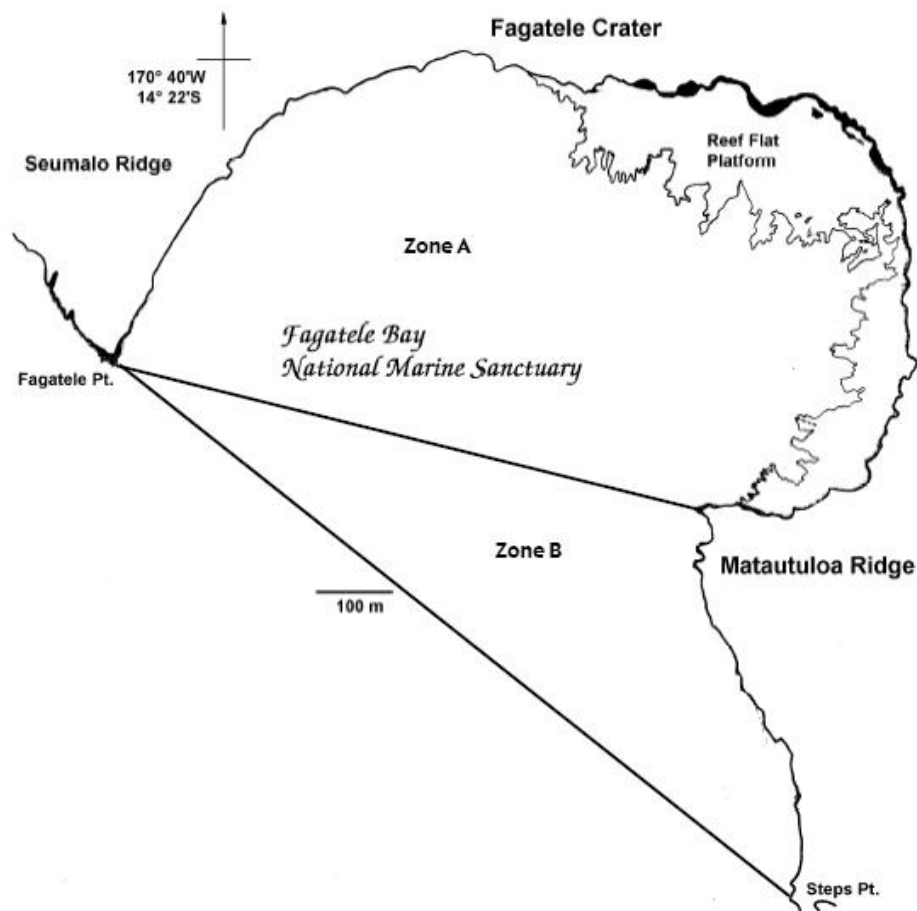
Samoa culture has proven to be extremely resilient in the face of Western contact. The matai system of village and family leaders dominates Samoan politics, and day-to-day life still revolves around one's obligations to one's aiga, or extended family. Communal values also remain strong, and over 90% of the land in American Samoa remains in aiga hands. Although American Samoa's coastal waters are the legal jurisdiction of the territorial government, customary control of near-shore marine resources is still observed by aigas.

### 2.c. Boundary Selection

Propose a boundary for the property and explain why you chose it. Is the boundary reasonable on logical grounds, such as if it conforms to topography or landforms or (for natural areas) to the range of wildlife or (for cultural properties) to any historical boundary or defining structures (such as walls)?

**Figure C: Map of Fagatele Bay NMS showing zones A and B, which regulate fishing activities. The use of most modern fishing gear is prohibited in zone A and only line fishing is allowed in zone B.**

The boundary of Fagatele Bay National Marine Sanctuary is shown in Figure C and was





### 3.a. Criteria under which inscription is proposed

From the World Heritage criteria listed below, identify each criterion that you believe applies to your property and briefly state why you believe each criterion you have selected is applicable.

*To be included on the World Heritage List, a site must be of outstanding universal value and meet at least one of these ten selection criteria in a global context:*

- v. Be an outstanding example of a traditional human settlement, land-use, or sea-use which is representative of a culture (or cultures), or human interaction with the environment especially when it has become vulnerable under the impact of irreversible change;

X This criterion applies to the property I am proposing

Reason:

Migrants from South East Asia arrived in the Samoan archipelago roughly 3,000 years ago. The descendants of these original inhabitants eventually explored and settled islands across the Pacific Ocean, from Hawai`i to Rapa Nui to New Zealand. Samoans thus consider their islands to be the cradle of Polynesian civilization.

Fagatele Bay combines exceptional and resilient coral reef ecological processes with strong traditional Samoan cultural relations to the sea. These Samoan traditions for using the marine environment are a legacy of the Samoan people's long dependence on the ocean for their livelihoods. The matai still directly influence the timing and location of particular uses of Fagatele Bay. Modern economic and social changes have overshadowed many of these traditions, but beneath this shadow is a valuable heritage upon which the Samoan people, other island nations, and global society can draw. Fagatele Bay National Marine Sanctuary is a lifeline for Samoan cultural heritage and its connection to the ocean. By giving the Samoan people a voice for their traditional relationship to the sea, and using Samoan systems of resource management, Fagatele Bay National Marine Sanctuary is a unique example of marine resource conservation and utilization that is threatened by environmental and social change. World Heritage Status for Fagatele Bay National Marine Sanctuary would give important recognition to a unique form of environmental and cultural stewardship.

- vii. Contain superlative natural phenomena or areas of exceptional natural beauty and aesthetic importance;

X This criterion applies to the property I am proposing

Reason: Fagatele Bay National Marine Sanctuary is cradled within an extinct volcanic caldera that was breached by the ocean on one side to form a spectacular protected embayment on one of the South Pacific's most wild and inaccessible

coastlines. Steep cliffs rise from the ocean to form the 120 m (400 ft) ridges that are blanketed by dense tropical vegetation and encircle Fagatele Bay. Massive volcanic promontories, where southern ocean swells pound the basalt rocks, frame the bay's entrance. Beneath these waves and the calmer waters of the bay, a riot of tropical marine life has constructed a coral reef ecosystem of great beauty and diversity. Plunging from inter-tidal conditions to depths of 170 meters (560 feet), these reef habitats are a warehouse of mid-South Pacific biodiversity and a powerhouse of ecological resiliency.

- viii. Be outstanding examples representing major stages of earth's history, including the record of life, significant on-going geological processes in the development of landforms, or significant geomorphic or physiographic features;

X This criterion applies to the property I am proposing

Reason: The story of Fagatele Bay's volcanic and reef building origins is of a unique merger of geological, oceanographic and biological processes. Tutuila Island is composed of Pliocene or early Pleistocene volcanics extruded approximately 1.5 million years ago by a series of eruptions. The island consists primarily of basaltic lava flows and ash deposits. The caldera that forms Fagatele Bay is the result of the latest-stage of island building by eruptions along the southern margin of the Tutuila island platform. Fagatele Bay, and its sister bay Larson's, sit uniquely at the platform edge where their eruptions created deep embayments into the platform. As a result, the sea floor of Fagatele Bay drops steeply to 170 m at the edge of the bay, only 200 m from shore.

- ix. Be outstanding examples representing significant on-going ecological and biological processes in the evolution and development of terrestrial, fresh water, coastal and marine ecosystems and communities of plants and animals;

X This criterion applies to the property I am proposing

Reason: Like other coral reef areas, Fagatele Bay has been repeatedly subjected to natural and human induced disruptions that have cut away various pieces of its intricate ecological puzzle. However, the coral reefs of Fagatele Bay have maintained their ability to recover from these events. Unlike coral reefs in other parts of the Pacific and the world, Fagatele Bay's reefs have quickly bounced-back from damaging storms, destructive fishing practices and high water temperatures. This resilience is testimony to Fagatele Bay's ecological integrity, and makes the bay a treasury of ecological knowledge that needs to be preserved in order to help restore other, less resilient reef areas.

- x. Contain the most important and significant natural habitats for in-situ conservation of biological diversity, including those containing threatened



species of outstanding universal value from the point of view of science or conservation.

X This criterion applies to the property I am proposing

Reason: Fagatele Bay's isolation has kept its marine ecosystem immune to many of the intense human caused disruptions experienced in other areas of the American Samoa and the tropics. This isolation has also meant that its biological systems, which promote its resiliency, are poorly understood.

The fringing reef system contains more than 140 species of coral and related organisms. From June to September, Southern humpback whales migrate north from Antarctica to calve and court in Samoan waters. Visitors can hear courting males sing whale songs, which the whales may be using to attract mates. Several endangered species have been observed in the vicinity of the bay, including hawksbill (*Eretmochelys imbricata*) turtles and humpback (*Megaptera novaeangliae*) and sperm (*Physeter catodon*) whales. The bay also provides an important habitat for the threatened green sea (*Chelonia mydas*) turtles.

Recent studies have shown that American Samoa is a significant habitat for humpback whales. During 2006 surveys, researchers documented a record number of whales in American Samoa waters. Up to eighteen individuals were sighted in a single day over a relatively small area west of Tutuila. This area is part of a recently mapped system of submerged reefs and banks that surround Tutuila and extend up to five miles offshore. The shallow areas provide unique habitats where humpback whales calve and breed after spending the southern summer months feeding in Antarctic waters. Whale research in American Samoa is a collaborative effort between the National Marine Sanctuary Program, National Park Service, American Samoa Department of Marine and Wildlife Resources and the Western Samoa Government.

### 3.b. Proposed statement of outstanding universal value

Based on the criteria you have selected just above, provide a brief **Proposed Statement of Outstanding Universal Value** summarizing and making clear why you think the property merits inscription on the World Heritage List. If adopted by the World Heritage Committee, the statement “will be the key reference for the future effective protection and management of the property.”

### Mixed property

The strength of the resiliency of both the ecosystem and the Samoan governance system has kept Fagatele Bay in an unspoiled condition. Natural, climatic and cultural changes could compromise the integrity of the ecosystem or the cultural and management institutions that protect it. The sanctuary combines stunning examples of geological and biological processes coming together to create an exceptional marine ecosystem set in a spectacular physical environment that continues to be used and managed by one of the oldest cultures in Polynesia. The combination of management partnerships among local, territorial, and federal systems is also unique. This coexistence of natural and cultural resiliency is the reason that Fagatele Bay is being proposed for World Heritage designation.



*Resiliency of the reef: New coral colonies grow on the grey-pink, coralline algae encrusted surface of a large dead table coral. Photo: Richard Murphy.*

Although quantitative descriptions are lacking, qualitative descriptions of Fagatele Bay indicate that it is one of the most biologically productive areas found in American Samoa. The bay is relatively isolated from humans and therefore provides added protection to a uniquely biologically resilient ecosystem. In the face of changing climates and oceans, the protection of such highly resilient coral reef ecosystems must be a worldwide priority.

Fagatele Bay provides an ideal setting in which to promote traditional management strategies within a society dominated by a western-style economy. The Sanctuary is a model for marine resource management that combines national, territorial and traditional stewardship methods for a unique and spectacular marine ecosystem.

### **3.c. Comparison of proposed property to similar or related properties (including state of preservation of similar properties)**

Please provide a statement explaining how the property being proposed compares with all other similar or related properties anywhere in the world, whether already on the World Heritage List or not.

Fagatele Bay National Marine Sanctuary combines stunning examples of geological and biological processes coming together to create an exceptional marine ecosystem set in a spectacular physical environment that continues to be used and managed by one of the oldest cultures in Polynesia. It is a rare to find a location that incorporates such outstanding physical, biological and cultural qualities in one location. This unique coexistence of natural and cultural characteristics is the reason that Fagatele Bay is being proposed for World Heritage designation.

Unlike other coral reefs in the Pacific, studies of the coral reefs in Fagatele Bay over the last three decades have documented their ability to rapidly recover from natural phenomena that have devastated coral populations. The most recent surveys (2005), indicate coral covers an average of 40% of reef surfaces. Crustose coralline algae

dominates the remainder of reef surfaces, which together with high levels of grazing by fishes, encourages new coral recruitment and growth.

Fagatele Bay National Marine Sanctuary is a unique MPA among Pacific MPAs. It is, in a region where MPAs are thought by some to be inadequately characterized and studied, a well-researched and monitored protected area, with over twenty years of data. It can thus serve as a model for research and monitoring in small, distant MPAs. It is unique even among the thirteen sanctuaries in the sanctuary system, being the farthest away and containing the only truly tropical coral reef habitat protected by sanctuaries.

Other communities in the South Pacific maintain their traditional uses and management practices for their marine environment. There are coral reefs in the Pacific with higher numbers of endemic species, higher biodiversity and exhibit resiliency. However, Fagatele Bay uniquely integrates a traditional system of governance with a national and territorial management structure for a South Pacific ecosystem that is outstanding for its diversity and resilience. Fagatele Bay has in fact been cited as a model for how to successfully designate and manage an MPA in a traditional culture, including such factors as recognition of the importance of traditional life styles, cooperative management structures, and incorporation of traditional resource management methods in sanctuary management.

Economic dependence on the marine environment has been overshadowed by a cash economy that relies mostly on imported consumer goods and, with the exception of family and market garden crops such as taro and bananas, the majority of food in the territory is also imported. As a result, American Samoa's coral reefs, including those in Fagatele Bay, are not suffering from the fishing pressures that are causing significant degradation to reefs in other parts of the Pacific. It also means that Fagatele Bay provides an ideal setting in which to promote traditional management strategies within a society dominated by a western-style economy.

### **3.d. Integrity and/or Authenticity**

*Explanation: As with a site's international significance, the clear intent of this requirement is that a World Heritage Site's authenticity or integrity must rise to a superlative level. Thus, for example, it is quite important to understand that reconstructions of historic structures or sites or largely restored ecosystems will usually be disqualified from inscription in the World Heritage List.*

#### **Mixed property**

Does the property's authenticity or integrity rise to a superlative level?

YES:   X                        NO:

Comment: The reefs of Fagatele Bay are intact and are outstanding examples of a mid-South Pacific coral reef ecosystem. They have naturally recovered from natural and human disturbances. The introduction of on-native marine life is possible, but the relative isolation of Fagatele Bay makes the potential of humans to cause such an event small. Non-native species and destructive fishing by humans could compromise the condition of the bay's ecosystem, but regular monitoring as part of the sanctuary's management is designed to identify such events and provides the ability to respond appropriately to them in order to curtail or mitigate there impact.

#### **4. STATE OF PRESERVATION AND FACTORS AFFECTING THE PROPERTY**

##### **4.a. Present state of preservation of the property**

##### **Mixed property**

What is the present state of preservation of the property (including its physical condition and preservation measures in place)?

A series of reef surveys starting in the early 1980s provides a view of the trends in hard coral cover for Tutuila and Fagatele Bay over the last two decades. In the early to mid-1980s, hard coral cover was increasing. An outbreak of crown-of-thorns starfish in 1978 killed 90% of the corals in the bay and the increases seen in the 1980's demonstrate the recovery from that event. Then, in 1990 and 1991 coral populations were reduced by severe tropical cyclones. A mass-bleaching event in 1994 killed many of the remaining corals. Since that time, survey results show coral populations have bounced back. According to the most recent surveys (2005), coral covers an average of 40% of reef



*New life from old: Coralline algae and juvenile coral colonies rebuild the reef after the death of a coral. Photo: Richard Murphy*

surfaces. Crustose coralline algae dominates the remainder of reef surfaces, which together with high levels of grazing by fishes, encourages new coral recruitment. As a result of coral recovery from several destructive events, and in spite of some coral diseases, the condition of the biologically structured habitats are in generally good condition. Although some human induced damage has occurred, the level of human activity is relatively low and does not appear to be increasing.

Existing regulations (15 CFR 922.102) do prohibit, among other things: taking or damaging any invertebrate, coral, bottom formation, or marine plant; destructive fishing methods including explosives, spearguns, seines, trammel nets or fixed nets; discharges

into the sanctuary; and alteration of the seabed. Only traditional fishing methods are permitted in the inner bay. Line fishing is permitted in the outer bay only.

Are there any recent or forthcoming planned major repair projects? Are there any major repairs needed to buildings or structures that have not been planned or financed? Are there data on species trends or the integrity of ecosystems and are there any on-going or planned interventions to restore natural conditions (e.g., to restore altered topography or manage invasive species and/or restore native ones)?

YES: \_\_\_\_\_ NO:   X  

Comment: A management plan review will begin in 2007. The management of Fagatele Bay National Marine Sanctuary includes education and outreach programs, scientific research and monitoring, and enforcement programs. These programs and the sanctuary's regulations will be reviewed and revised, as appropriate, in order to improve resource protection and meet the long-term goals of the sanctuary and the purposes and policies of the National Marine Sanctuaries Act.

#### **4b. Factors affecting the property**

If there are known factors likely to affect or threaten the outstanding universal values of the property or there any difficulties that may be encountered in addressing such problems through measures taken, or proposed to be taken, please use the following is a checklist to help in identifying factors.

##### ***(i) Development Pressures (e.g., encroachment, modification, agriculture, mining)***

Are there development pressures affecting the property? Or major changes in traditional land use? Or demographic shifts, especially in sites still in the hands of the descendants of their creators, or, for example, traditional ethnic communities.

YES:   X   NO: \_\_\_\_\_

Comment: Tutuila is American Samoa's largest island, the center of all administrative and economic activity, and home to over 90% of American Samoa's population of 65,500. Annual population growth is currently high at around 2% and the population is predicted to exceed 76,000 people by 2020.

With an increasing population and a fragile economy, American Samoa is likely to experience an increase in agricultural development, including the land surrounding Fagatele Bay. Such development may threaten water quality, habitat integrity and biological health of Fagatele Bay if soil and sediment runoff into the bay is not controlled. With two thirds of American Samoa's 197 square kilometers having slopes greater than 30% and a rainfall of up to 5,000 mm per year, soil erosion is a constant threat. Clearing of land for agriculture within watersheds often decreases the ability of

soils to absorb rainfall. Without proper land management, streams carry eroded soils, fertilizers and pesticides into near-shore waters. The developed watersheds around Tutuila generally discharge higher sediment loads than undeveloped areas. The steep topography of Fagatele Bay's watershed is particularly vulnerable to erosion once the land is cleared.

Sanctuary staff collaborated with the American Samoa Environmental Protection Agency to establish water quality monitoring protocols for the sanctuary. This effort will expand the agency's island-wide beach water quality monitoring to include monitoring the sanctuary for bacteria. It will provide a baseline to judge potential changes in water quality if human use in and around Fagatele Bay increases. Researchers hope that these procedures can be expanded to include other contaminants that could enter the bay from springs, coastal runoff and other sources.

***(ii) Environmental pressures (e.g., pollution, climate change, desertification)***

Are there major sources of environmental deterioration currently affecting the property?

YES:   X   NO:           

Comment: In the summers of 1994, 2002 and 2003, Fagatele Bay experienced a significant natural threat. Unusually warm water surrounded American Samoa for several months and caused corals to "bleach," or to lose their pigment-carrying symbiotic algae partners (zooxanthellae). Corals can recover from bleaching if temperatures return to normal and the coral regains its symbiotic algae. However, if temperature conditions remain anomalously high for an extended period, or bleaching is particularly severe, bleached coral will die. Bleaching has been observed nearly every summer in recent years. It affects corals mostly in shallow water, but bleaching of coral has been observed as deep as 40 meters.

***(iii) Natural disasters and risk preparedness (earthquakes, floods, fires, etc.)***

Are natural disasters likely to present a foreseeable threat to the property? If so, are there available background data (e.g., for a property in a seismic zone, give details of past seismic activity, or the precise location of the property in relation to the seismic zone, etc.)

YES:   X   NO:           

Comment: In 1978 and 1979, an outbreak of crown-of-thorns starfish devastated coral populations on Tutuila's reefs. The massive infestation resulted in a loss of more than 90 percent of all the living corals in Fagatele Bay. At the time, Fagatele Bay was not a National Marine Sanctuary, but this disaster helped to propel the decision for the site's designation.

The reefs of American Samoa are fortunate because coralline algae rapidly colonizes the dead coral skeletons and cements reef surfaces together to promote the settlement and

growth of new coral colonies. Without this rapid colonization by coralline algae, wave action can cause the dead coral skeletons to fragment and turn to rubble before the new coral community can establish.

American Samoa is susceptible to tropical cyclones during the southern summer from November to April. In 1990, 1991, 2004 and 2005, cyclones caused decreases in coral coverage and abundance in American Samoa, as well as damaged the reef framework to varying degrees.

Cycles of coral re-growth and destruction have been documented over the last 26 years. This ability to recover from disturbance attests to the resiliency of the reef ecosystem in Fagatele Bay sanctuary.

Are there contingency plans for dealing with disasters, whether by physical protection measures or staff training?

YES:   X   NO:           

Comment: The Sanctuary's management has the responsibility to protect Fagatele Bay from harm. If events occur that causes damage to the bay's marine environments, methods are in place to assess its extent and monitor its recovery. Restoration can also be undertaken to aid in rebuilding the ecosystem if deemed necessary.

*(iv) Visitor/tourism pressures*

If the property is open to visitors, is there an established or estimated "carrying capacity" of the property? Can it absorb or mitigate the current or an increased number of visitors without significant adverse effects?

YES:            NO:   X  

Comment: While there is no established or estimated "carrying capacity," there is relatively little tourism in American Samoa and it is likely to be some years before the Territory enters the mainstream of South Pacific tourism. Visiting Fagatele Bay National Marine Sanctuary is difficult even in good weather due to its remote location and the nature of the terrain that surrounds the bay. Because the land is privately owned, permission is also needed from the landowners to access the bay by land. Little is known about the number of people who visit the bay on a daily basis, but official patrols and visits by sanctuary staff over the past 18 years indicate those numbers are very low. However, if the number of visitors were to increase, increased monitoring and enforcement of regulations will follow.

In collaboration with the American Samoa National Park, a nature trail is being constructed that will link Fagatele Bay to adjacent Larson's Bay and the coastal villages to the east and west. This trail will provide better access for visitors to the sanctuary, and



will give a wider public understanding of the sanctuary and stake in protecting the coastal environment.

**(v) *Other***

Are there any other risks or threats that could jeopardize the property's Outstanding Universal Values?

YES: \_\_\_\_\_ NO:   X  

Comment: \_\_\_\_\_

## **5. PROTECTION AND MANAGEMENT**

### **5.a. Ownership**

Provide the name(s) and addresses of all owners:

*American Samoa Government*

If any of these owners are corporations or other nongovernmental entities, identify which are public and which private. Identify any traditional or customary owners.

Public organization owners:   N/A  

Private organization owners:   N/A  

Traditional or customary owners: Although American Samoa Government maintains ownership of all territorial waters, the revised management plan, to be completed through the Management Plan Review process, will engage traditional owners of the land adjacent to the Sanctuary in order to improve protection.

If there are any other authorities with legal responsibility for managing the property, provide their names and addresses:

NOAA's National Marine Sanctuary Program and American Samoa Government (through the American Samoa Department of Commerce) jointly manage the Fagatele Bay National Marine Sanctuary.

For properties having multiple owners, is there any representative body or agent which speaks for all owners? If so, does that representative body or agent have authority to act on behalf of all the owners? If so, provide the name and address of that representative body or agent:

  N/A



Are there any restrictions on public access to the property?

YES:   X   NO:           

Comment: Permission to access Fagatele Bay via land is required by landowners. Access by sea is unrestricted; however, activities are regulated.

### **5.b. Protective designations**

What are the principal existing (and pending) legal measures of protection that apply to the property?

List of measures:

National Marine Sanctuaries Act

Federal Regulations for Fagatele Bay NMS

Endangered Species Act

Marine Mammal Protection Act

Give the title and date of legal instruments and briefly summarize their main provisions. Provide the year of designation and the legislative act(s) under which the status is provided.

Titles, dates, and brief summaries of legal instruments:

The National Marine Sanctuaries Act (16 U.S.C. §§ 1431 et seq.)

The National Marine Sanctuaries Act was enacted in 1972 and provides authority for comprehensive and coordinated conservation and management of marine areas which are of national significance. Resource protection is the primary objective of the Act; other purposes of the Act include maintaining natural biological communities in national marine sanctuaries and, where appropriate, restoring and enhancing natural habitats, populations and ecological processes. Under the Act, it is unlawful for any person to destroy, cause the loss of, or injure any sanctuary resource managed under law or regulation for that sanctuary. 16 U.S.C. § 1436(1). Civil penalties may be assessed for violations of the Act and implementing regulations. Damages may also be recovered for injuries to sanctuary resources.

The Fagatele Bay National Marine Sanctuary regulations (15 CFR 922.102)

Fagatele Bay was designated as a National Marine Sanctuary on April 29, 1986 (51 Federal Register No. 82). The designation documents includes the description of the effect of designation, the area, special characteristics of the area, scope of the regulations, relation of the designation to other regulatory programs, procedures of alterations to the designation and funding.

Regulations for Fagatele Bay National Marine Sanctuary prohibit gathering, taking, breaking, cutting, damaging, destroying, or possessing any invertebrate, coral, bottom formation, or marine plant. The regulations also prohibit the use of explosives; certain

types of fishing gear including seine, trammel net, any type of fixed net, and spearguns; discharging any material into the water; and disturbing the benthic community by altering the seabed,

Endangered Species Act of 1973 (16 U.S.C §§ 1531 et seq.)

The Endangered Species Act was enacted in 1973. Activities prohibited by the Act include harassing, harming, pursuing, hunting, shooting, wounding, killing, trapping, capturing, or collecting, any animal listed as endangered or threatened, or attempting of these activities.

Marine Mammal Protection Act of 1972 (16 U.S.C. §§ 1361 et seq.)

The Marine Mammal Protection Act was enacted in 1972. The Act makes it unlawful to harass, hunt, capture or kill any marine mammal in waters or on lands under the jurisdiction of the United States. The Act applies to all marine mammals in the monument, including all species of dolphins and whales (in addition to those that are also protected under the Endangered Species Act).

Are the protections in perpetuity or are there potential gaps in the protection?

YES:   X   NO:           

Comment: The protections are established in perpetuity. Federal sanctuary regulations are re-examined as part of regular management plan reviews. The National Marine Sanctuaries Act could be amended by an act of Congress.

Are there any traditional ways in which custom safeguards the property?

YES:   X   NO:           

Comment: Although traditional protections are not formally included in the original management plan, these practices may be incorporated into the revised plan during the upcoming management plan review.

**5.c. Means of implementing protective measures**

Will the owner(s) be responsible for ensuring that the nominated property will be protected in perpetuity, whether by traditional and/or statutory agencies? If no, identify who will be responsible.

YES:   X   NO:           

Responsible entity other than the owner:   N/A

What is the adequacy of resources available for this purpose? Please briefly explain your reasoning.

The Fagatele Bay National Marine Sanctuary receives funds as part of the National Marine Sanctuary Program, supplied by the United States government. These funds support a local staff and program.

**5.d. Existing plans related to municipality and region in which the proposed property is located (e.g., regional or local plan, conservation plan, tourism development plan)**

Fagatele Bay National Marine Sanctuary Management Plan  
Ecotourism Plan for American Samoa 2005- 2009  
American Samoa Coral Reef Advisory Group Local Action Strategy  
Ocean Resource Management Plan

**5.e. Property management plan or other management system**

Is there a formal management plan or other management system for the property? If yes, when was it last updated? If not, is one in preparation and when will it be completed? *(It is not necessary to provide copies, but a summary can be included if one is available.)*

YES:   X   NO:           

Comment: The management plan for Fagatele Bay National Marine Sanctuary will be updated through the management plan review process beginning in 2007.

Is this management plan or other management system being effectively implemented?

YES:   X   NO:           

Comment: The management system for Fagatele Bay consists of three major parts: the management plan, the regulations, and the Fagatele Bay Sanctuary Advisory Council. The management plan and regulations are those put in place during the designation process in 1984, and will be reviewed and updated during the sanctuary's management plan review process being initiated this year. The original management plan did include goals and objectives that have been used to guide the management of the site to help ensure both effectiveness and efficiency in management efforts. The revised management plan can be expected to not only update the management programs and regulations of the site but to include an intensive set of performance indicators and an action plan on monitoring those indicators. As a national system, the National Marine Sanctuary Program also monitors the performance of each sanctuary through program wide long-term program performance measures (most of which in 2006 were on track to be attained) and short-term milestones.

The final piece of the management system for a sanctuary is its advisory council.

Sanctuary advisory councils are community based advisory groups established to provide advice to the superintendent of a national marine sanctuary. They provide advice about sanctuary operations and projects, including education and outreach, research and science, regulations and enforcement, and management planning. Each sanctuary advisory council is tailored to the needs of an individual sanctuary and represents segments of the sanctuary community including the local fishing and other user groups, local businesses, academia, environmental groups, and local government. The Fagatele Bay Sanctuary Advisory Council is one of the newest in the sanctuary system (established in 2005), and has twelve members which include a mix of community interests and governmental partners. Community seats include those for Community-at-Large, currently filled by a native Samoa High Chief from one of the local villages beside Fagatele Bay; research; education; fishing; and ocean recreation. Governmental partners include three American Samoa government agencies, the NOAA Office of Law Enforcement, and the National Park Service. The sanctuary advisory council will play in crucial role in the management plan review for the sanctuary.

## **6. MONITORING**

Beginning in 1985, and again in 1988, 1995, 1998, 2001 and 2004, a research team headed by Dr. Charles Birkeland, a researcher from University of Hawaii and a member of the Sanctuary Advisory Council, has amassed information on coral, fishes, invertebrates and marine plants in Fagatele Bay. Dr. Birkeland is scheduled to conduct a survey in 2007 and these surveys will continue to be part of the sanctuary's management into the future. This is one of the longest running coral reef monitoring programs in the world. The Sanctuary also collaborates in monitoring programs conducted by American Samoa's Dept of Marine and Wildlife Resources and Environmental Protection Agency. Fagatele Bay is an important site for year-round efforts by these agencies to assess and monitor marine conditions in American Samoa. Fagatele Bay National Marine Sanctuary also hosts researchers from around the world who study coral diseases, coral bleaching, fish ecology and southern hemisphere whale populations. The program also facilitates the periodic coral reef monitoring by NOAA's Coral Reef Ecosystem Division. In addition to conducting a variety of ecologic surveys in Fagatele Bay and other sites, monitoring instruments have been deployed that give real time water temperature readings ([http://crei.nmfs.hawaii.edu/ocean\\_data.html](http://crei.nmfs.hawaii.edu/ocean_data.html)) and continually record underwater sounds, which are recovered and analyzed every six months.

## **7. DOCUMENTATION**

### **7.a Photographs, slides, and other audiovisual materials**

If recent images (prints, slides and/or, where possible, electronically formatted images, videos and aerial photographs) are available that give a good general picture of the property, please provide a few photographs and/or slides. If available, film/video, or electronic images may also be provided. They should give a good general picture of the property and illustrate the qualities/features that you believe justify the nomination of the

property to the World Heritage List. (Ten views or so should be adequate for all but the most complicated properties.)

Please label the images you supply and provide a separate list of them here, including the photographer's name. Please do not include any copyrighted images or other images to which you do not possess the rights or do not have permission.

Images being supplied and names of their authors:

- Aerial photograph of Fagatele Bay National Marine Sanctuary and adjacent coast of Tutuila. Photo: M. Tennant
- Aerial view of Fagatele Bay's fringing reef. Photo: M. Tennant
- Healthy coral communities in Fagatele Bay in 2006. Photo: Richard Murphy
- Resiliency of the reef: New coral colonies grow on the grey-pink, coralline algae encrusted surface of a large dead table coral. Photo: Richard Murphy.
- New life from old: Coralline algae and juvenile coral colonies re-build the reef after the death of a coral. Photo: Richard Murphy

## 8. CONTACT INFORMATION

### 8a. Preparer/Responsible Party for Contact:

**Name:** Dr. William Kiene

**Title:** Sanctuary Superintendent

**Address:** PO Box 4318

**City, State/Territory, Zip Code:** Pago Pago, American Samoa 96799

**Telephone:** (684) 633-7354

**Cellular phone:** (684) 258-4943

**Preferred Days/Hours for Contact:** M-F, 8am – 5pm Samoa Time

**Fax:** (684) 633-7355

**E-mail and/or website:** William.Kiene@noaa.gov http://fagatelebay.noaa.gov

### 8.b. Responsible Official or Local Institution/Agency

If different from the preparer above, provide the same information for the agency, museum, institution, community or manager locally responsible for the management of the property. In the case of public property, identify both the responsible official and the agency. If the normal reporting institution is a national agency, please also provide that contact information.

**Name:** American Samoa Department of Commerce; Faleseu Eliu Paopao, Director

**Title:** Co-manager of Fagatele Bay National Marine Sanctuary

**Address:** Pago Pago, American Samoa 96799

**Telephone:** (684) 633-5155

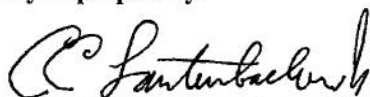
**Cellular phone:** \_\_\_\_\_

**Fax:** (684) 633-4195

**E-mail and/or website:** \_\_\_\_\_

## 9. Signatures of All Owners of Private Properties or Authorizing Officials for Public Properties:

**Explanation:** No property will be included in the U.S. World Heritage Tentative List without the written concurrence of all its property owners. This is because U.S. law expressly forbids nomination of such sites. In addition, at the time of nomination, property owners must pledge to the legal protection or the development of legal protection of the property in perpetuity.



**Signature**

Conrad C. Lautenbacher, Jr.

**Typed or Printed Name**

Under Secretary of Commerce for Oceans and Atmosphere

**Title**

March 30, 2007

**Date**

(Please attach as many additional signature pages as may be necessary.)

**Signature of Authorizing Official for Nominating Fagatele Bay National Marine Sanctuary to the US World Heritage Tentative List :**

**Explanation:** No property will be included in the U.S. World Heritage Tentative List without the written concurrence of all its property owners. This is because U.S. law expressly forbids nomination of such sites. In addition, at the time of nomination, property owners must pledge to the legal protection or the development of legal protection of the property in perpetuity.

  
\_\_\_\_\_  
**Signature**

**Togiola T.A. Tulafono**

\_\_\_\_\_  
**Typed or Printed Name**

**Governor of American Samoa**

\_\_\_\_\_  
**Title**

  
\_\_\_\_\_  
**Date**